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PRECAUTIONS IN PRESCRIBING MEDICINES.

On various Circumstances important to be attended to in Prescribing Medicines. By WILLIAM HOWISON, M.D., F.R.C.S., Lecturer on Mat. Med. at Edinburgh.

INDEPENDENTLY of a knowledge of disease and of its treatment, much of the success of the medical practitioner depends upon various circumstances connected with the form in which medicines are administered, and the causes which regulate their action upon the animal economy. In prescribing a medicine, even the best qualified for fulfilling the purpose wanted, it becomes necessary to take into consideration the following important circumstances, and to regulate it by them:—

1, the age of the individual; 2, the sex; 3, the temperament; 4, the habit; 5, idiosyncracy; 6, situation in life; and 7, effects of disease on the system before the dose can be properly determined upon, and as far as the medicine itself is concerned, the most agreeable form of administering it—whether it should be given alone, or combined with other ingredients, and how far these are likely to impede or facilitate its operation.

Attention to all these circumstances is necessary to prevent the errors which so often occur in drawing up prescriptions; for nothing distinguishes the well-educated medical practitioner, or tends more to the future recovery and comfort of his patient, than the nature of his prescriptions. Doses of medicine are not reducible to any general rule, from their general similarity of operations, or any other circumstance; they are therefore specific with regard to each other.

I will now proceed to make a few practical remarks upon each of the circumstances already alluded to, as affecting the action of medicines upon the animal economy, considering them in the order which I have laid down above.

AGE.—I commence this section with the table originally drawn up by Gaubrus, and copied from him by all successive writers to the present day, and which possesses no equal for perspicuity and correctness.

For an adult, suppose the dose (of any medicine) to be 1 drachm;

Under 1 year will require	1-12th or 5 grains.
2	1-8th or 8 grains.
3	1-7th & a half or 15 grs.
4	1-4th or 15 grains.
7	1-3d or 1 scruple.
14	1-half or 1-2 drachm.
20	2-3ds or 2 scruples.
Above 21, the full dose .	one or 1 drachm.
65,	the inverse gradation of the above.

From infancy to manhood, a larger dose of any medicine is required to produce its effects in proportion to the advance in life. From manhood to old age there is a similar gradation with regard to diminution of dose, though in a much less proportion than that which regulates the increase. In the two extremes of life, childhood and old age, the animal economy is weak, and susceptible of all impressions; whilst during the intervening period, or what is termed adult age, it remains stationary. From infancy to adult age, therefore, the dose of medicine should gradually increase. During adult age it should remain the same, and this is what is given in all medical works as the standard dose; whilst from adult up to extreme old age, it must again gradually diminish in quantity, but not in so rapid a ratio as it increased from infancy to old age.

With regard to medicines, however, it is of consequence to observe, that there are many which do not act with greater violence in a large dose than in one comparatively small. Ipecacuanha, as an emetic, is more certain in its operation when given in a large dose than in a small, and is not more violent. The same may be said of aloes and others. In fact, almost all the medicines included under the classes of emetics and purgatives, come under this observation. In the action of an emetic or purgative upon the animal economy, it seems probable that that portion of the medicine which comes into immediate contact with the internal villous coat of the intestinal canal, stimulates it to action, when the remainder will be thrown off or evacuated, without producing any further effect. From a large dose of such medicines, therefore, disagreeable effects are not to be apprehended. Whereas, when too small a dose is given, no effect is produced, the remedy remains in the intestinal canal, acting as an extraneous body, aggravating the symptoms which it was intended to relieve, causing the loss of valuable time. This remark applies to the generality of medicines.

Sex affects to a considerable extent the operation of medicine upon the animal economy. Although some women possess nearly as much bodily strength and vigor of constitution as the majority of men, yet the greater general delicacy and sensibility of the female frame, at every period of life, require not only caution in apportioning the doses of active medicines, which should be less than those ordered for men of the same age; but the medicines themselves should be such as are likely to fulfil the indications required without much violence. The state of the uterine system must be attended to in prescribing for females. Drastic purgatives, aloetic ones, and astringents, may be avoided during the flow of the catamenia.

Temperament affects the operation of medicines upon the animal economy. By temperament is understood a predisposition, derived from original conformation, to be affected in a more peculiar manner by external causes acting on the system; and much laborious investigation has been bestowed in distinguishing the different temperaments, or original conformation of body, and the diversities to which they give rise. It is undoubtedly true, that persons of different temperaments are differently affected by the operation of medicines. Stimulants more readily affect those of a sanguine than those of a phlegmatic temperament, and therefore smaller doses are required. In the phlegmatic, also, the bowels are generally torpid, and require both descriptions of medicines, and such doses of them to excite the proper peristaltic motion, as would induce either inflammation, or be followed by an alarming state of debility, were they administered to those of a sanguine temperament. Hence the necessity of attending to this circumstance in prescribing.

HABIT OR CUSTOM exerts a most important influence upon the operation of medicines. Persons addicted to the use of spirits, narcotics, and other stimulants, are less easily excited at an after period, both by medicinal stimulants and narcotics; and the same takes place with respect to purgatives. A knowledge of the habits of the patient, as far as the exhibition of all these is concerned, is absolutely necessary for the prescriber, many people being in the almost daily habit of taking these remedies without consulting the practitioner. In the first of these cases, larger doses of stimulants and narcotics are required to produce the ordinary effects of these remedies; but in the second a change of the purgative usually taken will generally be sufficient. In the employment of medicines which require to be long continued, the beneficial effect is soon lost if the dose be not increased.

In a few cases, the reverse of the above will be found to hold good, as, for example, with regard to the saline cathartics. As an example of the first of the cases alluded to, I may mention opium, one grain of which will produce upon an adult, unaccustomed to its use, all the effects of a narcotic; whereas ten grains will not do so at an after period, in the same individual, when long accustomed to its use. The first thing, therefore, that the medical attendant must do, upon being called in to a patient, previous to prescribing opium, is to ascertain whether or not he be in the habit of taking that medicine, and to what extent. The dose must be regulated accordingly. With regard to the saline purgatives, as sulphate of magnesia, the dose requires to be diminished after long use, half an ounce at last producing effects equal to one ounce at first. The same remark applies to castor oil.

SITUATION IN LIFE has a considerable effect in regulating the action of medicines upon the animal economy. Individuals of the higher ranks—and this applies particularly to females leading a sedentary life, little exposed to air, exercise, or variations of weather, not compelled to gain their bread by their own industry—are much more susceptible of the action of medicine, and of course require milder ones, and in smaller doses, than individuals belonging to the lower orders. In other words, a female of the lower orders requires as strong medicines, and as large doses, to produce equal effects, as a male belonging to the higher ranks, and *vice versa*. In the higher ranks, I have always found the common aloetic pill sufficiently active as a purgative; whereas, in the lower, it has generally disappointed me, proving weak or inert, so that I have for many years past been obliged to give it up, under such circumstances having recourse to the compound colocynth pill, which has always answered my expectations. The practice of dispensaries, hospitals, &c., and that confined to the lower ranks of life, as far as regards medicines, is considerably different. Upon a similar principle, the practice of different countries varies greatly, and that which has been followed by the practitioners of a place for ages, must always be superior to the innovations of the stranger. The population of France, Italy, &c., enjoying a settled, warm, southern temperature, and living principally on fruits, vegetable diet, &c., cannot bear the active medicines and practice adapted to the inhabitants of Great Britain, Russia, and other northern regions, exposed to every variety of weather, living upon animal food, and accustomed to the use of spirituous liquors. A wandering life passed in these countries firmly establishes the accuracy of this remark upon my mind. The treatment of syphilis in southern and northern latitudes,—its yielding without mercury in the former, whilst it absolutely requires its active ministration in the latter for its extirpation, may be given as illustrations of the above.

DISEASE exerts an influence on the action of medicine in the animal economy very important, the susceptibility to external impression and to action being much varied in morbid affections, and the operation of medicines of course being modified by such variations. The state of susceptibility being in general different when it varies much from that healthy standard, the doses of the medicine administered are regulated accordingly, and thus it is obvious does not admit of much general observation, as being entirely dependent on the nature and state of disease. I may mention, however, two striking extremes. In the diseases arranged under the class *febres* and *exanthemata* of Dr. Cullen's arrangement, all characterised by febrile action, the animal economy is remarkably irritable, and susceptible to stimuli; the mildest medicines, and in the smallest doses, produce powerful effects. In the diseases arranged under the class *neuroses*, of the same arrangement,—mania, melancholia, hypochondriasis,—all characterised by stupor and insensibility to stimulants, the most powerful medicines, and in the largest doses, are required to produce even moderate effects.

Besides these guides now mentioned in the administration of medicines, the choice of the practitioner must occasionally depend upon the circumstance of the patient being more or less immediately under the practitioner. Then, if the patient can be seen every day, or frequently, by the practitioner, the most active medicines which the nature of the case requires, should be chosen. But, if he cannot be seen, or is not resident in the same place, the practitioner should choose a remedy of the same class, but less likely to have a violent effect. Thus, in prescribing for intermittent fever, where a patient cannot be visited every day, or oftener, the Peruvian bark should always be preferred to the arsenical solution. In dropsical complaints, the supertartrate of potash, to the digitalis or elaterium.

In apportioning the dose of any very active medicine, it is of the greatest moment to determine the relative degrees of power between the system and the remedy, and to know to what extent the latter is likely to be carried consonantly with the power of life to resist it. Thus, after a patient has been exhausted by protracted or severe suffering, a dose, different or milder than one at the commencement of the disease, becomes necessary.

THE VARIABLE ACTIVITY of a medicine should also be appreciated, and the practitioner would act judiciously, if he were to reduce the dose, should it be a very considerable one, whenever a fresh parcel of a medicine is commenced, especially of the powders of active medicines, liable to deterioration from being long kept,—those of cicuta, digitalis, &c.

THE TIME OF DAY at which remedies should be administered, likewise deserves attention. Evacuating medicines ought to be administered late at night or early in the morning. It would seem, that during sleep the bowels are not so irritable, and consequently not so easily acted upon, which allows time for the ready solution of the substance. The same observation applies to alterative and other medicines, which are liable to suffer from vexatious irritability of the bowels. It is on this account eligible to exhibit guiacum, pil. hydrargyri, &c., when they are not intended to purge, at bed-time. On the other hand, when the effects of a medicine are likely to be lost by perspiration, as is the case with diuretics, many of which are by external heat changed into diaphoretics, it becomes a question with the judicious practitioner, whether he cannot select some more favorable period for their exhibition. Medicines which are in the form of a pill, as they are liable to be long kept in apothecaries' shops, and of course to become remarkably hard, should generally be administered at bed-time, to give time for the gastric juice and other secretions of the intestinal canal to complete their solution. Under these circumstances, they will pass through the whole tract of the bowels as inert bodies, disappointing the intentions of the practitioner and patient. Aloes, administered in *powder*, operates in from two to three hours; given in *pill*, it requires from eight to twelve hours to produce its full operation.

IN FEVERS, it is of importance to consult in all respects the quiet and comfort of the patient. Dr. Hamilton, in his admirable work on purgative medicines, justly observes, that on this account the exhibition of purgatives should be so timed, that their effects may be expected during the day. In some cases, the time of administering the remedy must be regulated by the stage of the disease. In fevers, a dose of opium will either increase the heat of the fever, augment the thirst or restlessness, or occasion tranquillity and sleep, according to the temperature of the body at the time of its administration. For this reason, Dr. Currie advises us not to give the evening dose of opium in typhus fever till very late, or about one or two o'clock in the morning, when the heat is subsiding, and moisture coming on.

EMETICS, administered for the cure of the slighter cases of pyrexia, should be given in the evening, as their operation has a tendency to sleep and diaphoresis, which it is useful to promote. Remedies that require to be absorbed, will probably be more efficient in the morning, after sleep. The old custom of giving medicines in the morning, fasting, is not quite so absurd as some modern practitioners have been led to suppose. A weak or mild medicine, taken two hours before breakfast, upon an empty stomach, will operate equally powerfully as a much stronger one will if taken at a later period, or upon a full stomach. Every practitioner must be struck by the truth of this remark, when administering mineral waters, as those of Cheltenham or Harrowgate.

THE INTERVALS between doses of medicine must be regulated by the nature of the remedy, and that of the object which it is intended to fulfil, and whether it be desirable or not that the last dose should support the effects of the preceding, or whether there be any fear of a re-action or collapse taking place after the effect of one dose has subsided, unless immediately repeated. Thus the effects of diffusible stimulants, ammonia, or of ether, are very evanescent; they should therefore be repeated at short intervals. The same may be said of diaphoretics. We ought not to allow the periods between the doses to be so remote as to occasion any striking abatement in the impression. So opium, when stimulant operation is required, as in diseases of debility, fevers of the typhoid kind, &c., should be given in small doses, at short intervals, so that it may produce a uniform and regular state of excitement. But when the object is to mitigate pain, allay irritation, and produce sleep, it ought to be exhibited in full doses, at distant intervals. There is a caution, also, which it is very necessary to impress upon the practitioner, respecting the power which some medicines possess, of accumulating upon the system. This is notorious with regard to lead and mercury. Dr. Withering has observed, that the repetition of small doses of digitalis, at short intervals, till it produces a sensible effect, is an unsafe practice, since a dangerous accumulation will frequently take place, before any signals for forbearance present themselves.

From a COMBINATION of medicines, beneficial and mild effects result, which would not be produced by any of them given separately. From two distinct emetics, combined together, or from two distinct purgatives, an effect results, which is far more certain and mild, than from either of the two administered separately; and the same holds good with other medicines.

In prescribing medicines, the principal object to be kept in view is simplicity, and this was greatly neglected in the prescriptions of former days, and is even so still in those of surrounding countries. This is strongly remarked by Dr. Boyce, in his Sketch of Medical Knowledge at Constantinople, recently published. Dr. Paris informs us that he was told, by a medical practitioner in the country, that the quantity, or rather complexity, of the medicines which he gave his patients, for there never was any deficiency in the former, was always increased in a ratio with the obscurity of their cases. "If," says he, "I fire a great profusion of shot, it is very odd if some of them do not hit the mark!" Sir Gilbert Blane, in his *Medical Logic*, has given us a similar anecdote. A practitioner, being asked by his patient why he put so many ingredients into his prescription, is said to have answered, more facetiously than philosophically,—"In order that the disease may take which it likes best."

With regard to the directions in a prescription, how many medicines are to be taken, they ought always to be written distinctly, in the vernacular (English) language. In prescriptions, perspicuity is our first object; it is not here that a medical man is called upon to display his learning; and by clearness,—by writing the directions distinctly,—he puts it out of the power of any individual to injure his reputation, or to endanger the safety of the patient.—*The Lancet.*

EXEMPTION OF INFANTS FROM CONTAGION.

On the Exemption of Infants from Contagion, particularly with reference to Vaccination. By JOHN MURRAY, M.D.

Cape of Good Hope, August, 1831.

CHILDREN were chiefly the subjects of its attack (Scarlatina), but many grown-up persons of both sexes got it also, some of whom were above forty years of age, and in them it was often very severe : *infants*, however, seemed generally to enjoy the privilege of exemption from its attack, as if their systems were insusceptible of the morbific effect of the contagion. Of two families who fell under my particular observation, the youngest of each (both babies in arms) entirely escaped, although all the other children were attacked ; and I know a great many other instances of similar exemptions. I myself did not see any child under a year old with the disease during the whole epidemic of 1830 ; no such case occurred amongst the military, and I have not been able to hear of more than three or four instances, in civil practice, where infants at the breast became affected :—they were all upwards of eight months old, and the disease in them was not of a severe nature.

This greater exemption of infants is a circumstance which I think has not been particularly noticed by writers on Scarlatina ; but it is an important fact, which I have to point out for further observation. Neither Huxham nor Fothergill advert to it. Dr. Withering, in his observations on Scarlatina, as it appeared at Birmingham in 1778, states, that it seldom occurred in children under two years of age : and Dr. Sims, in his full account of this disease in London in 1786, mentions, that he saw but one child at the breast who had it, and that but slightly. I am inclined the more, however, to believe in the insusceptibility of infants to the Angina Exanthematica, as the same has been found to obtain in other contagious diseases ; for example, Dr. Hennen mentions, on the authority of the hospital surgeon, Mr. Naudi, that in the plague at Malta, in 1813, several instances occurred, in which children sucked their dying mothers without contracting the disorder from them ; and Mr. Kite, of Gravesend, in his paper on smallpox, in the "Transactions of the Medical Society," states, that "he had occasion frequently to observe that very young children had been repeatedly inoculated, and for several weeks constantly exposed to the worst kind of smallpox, without any effect ; that afterwards the measles became unusually rife, of a putrid nature, and much more contagious than he ever before or since observed it ; that he attended in several families where the young infants (particularly when under two months) were the only part of the family that escaped the disease, although exposed a considerable time to the infectious air, and laying all the night close to other children passing through every stage of the complaint, and consequently inhaling into their lungs the very essence of infection ; nay, he had been informed of more than one instance, where, in addition, the mother had the disease, and the child, although constantly in her arms, breathing the air reeking with putrid particles, and sucking the milk impregnated with the disease, strongly, as we should think, has for months withstood the infection."

From reflecting on this degree of insusceptibility of infants to the influence of contagion, I have been led to consider, that it may perhaps be owing to the circumstance of persons being vaccinated in infancy, while their constitutions are but imperfectly susceptible of the action of the vaccine virus, that vaccination has been found not to prove a perfect preservative against the influence of smallpox contagion.

It is most usual to vaccinate children within three or four months after birth, with a view to protect them from smallpox during the rest of life; but the instances in which it has failed to afford perfect protection, have of late years been so numerous in different countries, as to have caused considerable distrust in the minds of the public relative to the utility of the operation; and I believe there are few intelligent parents who do not now entertain more or less anxiety and apprehension about their children on this score, when they send them out into the world.

These failures of vaccination have been attempted to be accounted for by medical men in various ways, such as that the operation might have been improperly performed, or performed when the infant was laboring under some other eruptive disease, or that the course of the vaccine disease might have been interrupted by the pustules having been punctured or broken, or that the virus might have been of a spurious description, or that time had diminished the protecting virtue of vaccina, or that in certain cases of failure it might have been owing to some idiosyncracy or peculiarity of constitution in the patient himself; but it must be confessed, that all these reasons are unsatisfactory and untenable in the majority of cases.

I do not know if the idea be new or not, which I have here broached, that the failures may probably be attributed to the operation being performed at an age when the constitution is insusceptible of undergoing the regular process necessary to preserve it from the influence of variolous contagion; but, from the circumstances I have just mentioned, I think it is likely to be as correct as any other I have yet known brought forward.

I have not an opportunity of ascertaining whether, in the late variolous epidemics in Europe, any difference was found in the anti-variolous protection afforded in the cases vaccinated at the age of a few months, and in those in whom the operation was not performed till after three or four years of age; but I feel anxious that this subject should be investigated, as it may be found to elucidate many of the obscure points connected with the subject of the protection in some, and the complete failures in other cases, that have hitherto eluded explanation, and I the more hope that it may prove correct, as we should then be enabled to prevent failures hereafter. As connected with this point, I have further to add, that I have known a strong effect to be excited in the constitution of adults from re-vaccination; and reasoning on this circumstance from analogy, we should suppose it could not happen if their system had undergone the proper vaccine action from the primary operation; and if it be granted, as I believe it now is, that there is no just ground for the opinion that the prophylactic virtue is altered or lost in the constitution after a certain time from the date of vaccination, then I think that my supposition is greatly strengthened by another circumstance, which is, that when re-vaccination has been instituted in adults, it has been found to preserve them more effectually from smallpox and its modifications ; of this, a good instance came within my own knowledge, of a family in Scotland, which escaped infection through this means, when a variolous and varioloid disease was raging epidemically all around it.

Were my children to leave this colony for England, or indeed for any place where there was a chance of their being exposed to smallpox, I should certainly have them all re-vaccinated, by which means I should consider them to be rendered more secure against the influence of its contagion.—*Medical Gazette.*

CHOLERA AND TYPHUS FEVER.

On Cholera and Typhus Fever. By **Joseph Comstock, M.D.**, of Lebanon, Con.

Communicated for the Boston Medical and Surgical Journal.

The excitement and terror of the two worlds,—the *old* and *new*,—respecting Cholera, has induced the medical faculty to reflect, investigate, and write, upon the disease, even when 3,000 miles distant. This is perfectly judicious and philanthropic. Every particle of light, which can be shed upon a disease so terrible, ought to be put in requisition, so that the monster, should it appear, may be met at the threshold, with appropriate weapons in readiness and complete order.

Cholera, or, as it is vulgarly called, *Cholera Morbus*, is with us no new disease. What would be *new* to most of us, who, like myself, have been in the practice of medicine for even thirty years and upwards, would be, to lose a *single patient with it.*

We have, however, never known a case of the disease exactly like those of Europe and the East. In those countries, the worst cases appear to be a rapid and total nervous annihilation. In these extreme instances, there is no re-action of the system, and no time for such re-action.

The first stage is a dying state,—the second stage is death itself! An eye-witness says,—" Within twenty minutes of the attack, the vital functions become utterly paralysed, pulsation ceasing at the extremities, animal heat becoming almost wholly extinct, the surface of the body, lips, tongue, mouth, and face, assuming a deadly, cadaverous, and leaden tinge,—to the touch cold as marble." * * * " Boiling water, spouted on the extremities, fails to produce a momentary blush, much less a vesication."—This, we are told, " is the character of Cholera of the worst type, such as has appeared in Sunderland, Houghton la Spring, Gate's Head, Newcastle-on-Tyne, and other parts of the north of England."

We are further told, that *post-mortem* examinations have done little towards eliciting the pathology, or mode of cure, of this terrible epidemic.* These features and facts are certainly appalling; but it is our imperious duty to know the worst, and to be prepared for it.

Perhaps the time has arrived, in which we shall be able duly to appreciate the labors of our chemical brethren, who have been separating the most active principles of our most active medicines.

Opium, of itself, would appear to be too powerless to meet this Goliah; but its active and concentrated principles may be found equal to the emergency.

Morphine, a remedy so potent that one sixteenth of a grain is a dose, promises something. Where even this small quantity cannot be swallowed or retained, it acts externally in larger quantities, as in one, two, or more grains, the skin being denuded of its cuticle in the first place. When vesicatories fail of accomplishing this, it may be done by the lancet. The patient may, in fact, be inoculated with this powerful narcotic and stimulant, or it may be used *pro injectio*, with diluted alcohol and other stimulants, such as a decoction of capsicum, a solution of pepperine, tinct. lytta, or spt. turpentine, if injection can be retained.

But to discover some prophylactic,—some supporting, invigorating plan, which would render the human system wholly or partially invulnerable to the impressions of the potent enemy,—is the grand desideratum. Opiates, in some form or combination, would appear to promise most for this all-important purpose.

Supposing that the epidemic should visit **Boston**, or any other of our cities or towns, those in health should be provided with some of the preparations of thebaic, and, under the direction of their family physician, make such use of them as age, sex, constitution, and idiosyncracy, would seem to justify.

Small doses of opium might be taken, in substance, in form of pills, or laudanum in combination with ol. of peppermint, ol. of cinnamon, ol. of lemon, spt. lavend. comp., aq. ammonia, vol., camphor, capsicum, pepperine, quinine, or Huxham's tincture; or the citrate or sulphate of morphine might be used, in combination with either of these articles, or clear, as judgment, or even fancy, might dictate.

Those of the profession who saw some of the worst cases of spotted and typhus fever, appropriately termed by my friend, Dr. **Miner**, *typhus syncopalis*, which prevailed from 1806 to 1814, and in some places after the latter period, know something of a disease which approximates more nearly to the eastern cholera than anything that has been known in the United States. Confounded, in my own practice, with the rapid tendency of that disease to speedily run the patient down to the lowest state of debility, and thus to prove fatal,—confounded, also, by the inefficiency of all that I found written upon it, except by a few of my own contemporaries in this country,—I resorted to a practice the most decidedly stimulant, with the happiest effects. Five hundred and seventy-five cases of this epidemic and its congeners fell under my care, from 1810 to 1814, both inclusive.* Among a great variety of cases, I have those of three sisters, out of ten brothers and sisters who had it, particularly in my recollection. One of these was a little girl in her 10th year. I found that wine did not reach her case, with all the aromatics and stimulant additions which I could get down. In this stage, she was visited by me with one of our eminent professors, who told me, as we came out of the house, that *I should lose my patient.*

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* One important fact has, however, been discovered by dissections. It is what I call the *death of the arteries*, they being found empty. This death-state of the arterial system has been discovered a little before death. This discovery was made at Berlin, where, for the purpose of *transfusion*, the brachial artery was denuded, opened, and found empty! It is a disheartening discovery, because its causes remain undetected in the dead subject, by the most skilful anatomists. One of the most eminent of this class, the late Dr. Wistar, of Philadelphia, informed me, whilst I attended his lectures, that for six years he had studied and investigated this phenomenon without being able to satisfy himself of its cause. Connected with this subject, I have one important *quere* to propose to the anatomists of Boston and elsewhere, viz.:—*Can a colored injection, thrown into an artery of a living animal, be detected in the veins of that animal?*—In the dead subject, it is well known that it cannot.

I then resorted to alcohol, in the form of strong W. I. rum. I told her mother, who was a most excellent nurse, that she must get down enough to warm her child, let it take what quantity it would. A pint of this article, diluted with water and dulcified, was given and retained the first 24 hours, and as much or more for several succeeding days, with some wine and opiates. She was saved.

The second was her sister, in her 13th year. The symptoms of extreme exhaustion, coldness of her lower limbs, which reached above her knees, indicated speedy and seemingly inevitable dissolution, and this under the use of a quart of wine a day! Some good French brandy was then resorted to, and the same quantity of wine continued. She took for the first 24 hours a whole quart of wine, and a pint and three gills of the brandy, with bark, aromatics, and opiates; and for several successive days these quantities were not diminished, except the brandy only, and that not more than a gill. She retained these enormous quantities, never ejecting them from her stomach, and was also cured; and, I may add, without any detriment to her constitution. She afterwards became a healthy young woman, got married, and with her husband came to visit me at my present residence in Connecticut.

The third sister was a young married woman, who lived five miles distant. The epidemic of which we are treating sometimes assumed the form of cholera. This was the case with Mrs. H. The puking was excessive; the diarrhœa not quite so urgent. I, however, at first despaired of her recovery, because, with alarming debility, her stomach did not permit the retention of any remedy whatever. Her husband was a merchant and grocer, and had in his store good spirits of fourth proof. With the addition of laudanum, enemata of this article were resorted to, and happily retained. Nine gills of the spirit, a little diluted with milk and water, were administered in speedy succession, one gill each time, with about one drachm of laudanum. She was likewise saved, and her recovery from the most frightful state of exhaustion and nervous derangement was complete.

Although the free and liberal use of ardent spirits was found thus useful as a *remedy*, and may be equally so in cholera, yet, as a *prophylactic*, I consider them hazardous; for I found that no class of persons were so liable to die with typhus, as those whose constitutions were broken down by intemperate drinking.

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* The writer at this time resided at S. Kingstown, R. I.

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ACTION OF EMETICS.

Among the means which the medical art possesses of acting on the human system, none, perhaps, is more decisive, and more powerful, than the administration of substances calculated to produce vomiting. If we review the serious diseases to which the human frame is subject, taken simply with regard to their number, we shall probably find a large proportion in which this remedy is indicated; and, when the comparative frequency of these and the remainder is taken into view, the importance of emetics, as a class of therapeutic agents, is still more manifest. It becomes, then, a point of no small interest, to consider what indications this class of remedies may be judged capable of fulfilling;—in other words, what may fairly be set down as effects of emetics on the stomach and general system, by which we are enabled to remove disease.

In considering this subject, it might be thought necessary that the expression, *emetics*, should be more exactly defined, and that the inquiry should be directed to the action of single substances of this class, either solely, or at least in succession. But the truth is, the specific differences between the action of the different emetics in common use, is in small proportion to their activity as a class. Ipecacuanha and antimony, for instance, if given in sufficient doses to cause vomiting, of which effect, in ninety-nine cases in one hundred, either of them is capable, produce effects on the system, not indeed strictly analogous, but still agreeing in those points in which the action of both is most important and interesting. It is for this reason, no doubt, that the emetic substances actually employed are so few in number; a circumstance which, while it simplifies this branch of practice, renders it also more easy to arrive at a distinct and satisfactory theory.

The first and most obvious effect of artificial vomiting, is to discharge from the stomach any foreign substances which happen to have been introduced into that organ. In fact, the effect of an emetic, administered when the stomach is surfeited with food, is sometimes limited to fulfilling this simple indication. In this respect, the vis medicatrix is often remarkably displayed, and nature herself provides that the direction and amount of the effect produced shall be just that which the circumstances of the case happen to render necessary. This is often peculiarly manifest in children, in whom the exhibition of a powerful emetic is often found to limit itself to a single act of vomiting, which brings up the contents of the stomach, and leaves the system to all appearance as little disturbed as if the ejection of these foreign matters had been the spontaneous act of the organ.

2. A second effect of emetic substances, is a change in the action of the hepatic organs, by which a quantity of bile is thrown into the stomach, and thence rejected by vomiting. This would seem to prove, that the antiperistaltic action, which is excited under these circumstances, extends to the duodenum, and that the bile which is there accumulated is in consequence thrown up. But, beside this, there can be no doubt that the liver is excited to increased action, and that, in most cases, where bile is discharged, only a small proportion can be viewed as having previously existed in the duodenum. It may be doubted whether the action of an emetic be ever limited to a simple emptying of the duodenum from the bile previously accumulated there; but this point is not susceptible of direct proof.

3. Of the more remote effects of emetics, some are produced in the alimentary canal itself, while others are exerted more generally on the system. The most remarkable circumstance in the action of emetics on the stomach and bowels, is their tendency to counteract at one time the very state which at others they are calculated to produce. It was remarked, as a singular fact, by Celsus, that vomiting opens the bowels when costive, and binds them when relaxed. Its action in the first mode we have less opportunity to observe than was enjoyed by the ancients, by whom the remedy was employed on much slighter occasions; but it is a matter of familiar observation, that what is termed hepatic jaundice, which seems to be owing to a torpid state of the liver, and of which constipation is the leading symptom, often disappears under the use of this remedy, as by a charm, when cathartic remedies have been repeatedly tried in vain.

A somewhat obscure state, usually termed bilious, attended with nausea, loss of appetite, and costiveness, which with many persons recurs regularly at a certain season, is also most effectually relieved by artificial vomiting. The effect exerted by this remedy in the opposite state, or that of increased peristaltic action, is equally remarkable. A diarrhœa, which proves obstinate under the best regulated diet, and resists the action of cathartics, astringents, and sedatives, will often be found to yield without delay under the judicious administration of an emetic. It is not easy, without a somewhat liberal use of hypothesis, to reconcile effects apparently so contradictory. In the last case, it would seem that the peristaltic action once inverted, the irritability of the muscular texture receives a powerful check, and that, by the tendency of extremes to produce each other, of which so many examples are presented in the system, the fibres return to a state of comparative torpor.

4. A more remarkable proof of the tendency of emetic substances to produce a state of things the reverse of that pre-existing in the system, is found in the fact, that vomiting itself, which has continued obstinate in spite of other remedies, is not unfrequently relieved by this means alone. Of the truth of this position, experience furnishes abundant proof. The nausea and vomiting, which follows upon surfeit after the offending substance has been rejected, can often be relieved only by full vomiting; and the irritability of the stomach, with which fever sometimes makes its onset, is usually dissipated by the same means. Among the million remedies which have been proposed for the cholera, its treatment with full vomiting at the outset is recommended by as many, and as striking instances of success, as perhaps any other. We intend this, indeed, principally of the disease in its sporadic form; for cholera, when epidemic, seems to acquire a prostrating power in its first onset, which almost forbids any hope of success from so harsh a remedy. Cases, however, are not wanting, to show that even in this terrific form of disease, the prompt exhibition of an emetic will sometimes arrest the symptoms. This practice is indeed most likely to be effective when the case appears to have been induced immediately by imprudence in diet.

An interesting paper, on the employment of emetics in cholera, will be found in the April number of the Edin. Journal, by JAMES HALL, Surg. R.N. The author's opportunity of observing the disease, arose from the circumstance of his having charge of several ships of war, lying in ordinary in the river Medway, in the fall of 1831. The occurrence of the disease in these vessels, which had previously been healthy, is supposed by the author to have been connected with the arrival of several vessels from Riga, where the Asiatic cholera was then raging. However this might be, the first case occurred in July, and, between this and October, 120 cases occurred in a population of 700 persons. Many of these were of course mild; many, however, were severe, and a few are described as having presented that peculiar livid aspect, which has been regarded as diagnostic of Asiatic cholera. On these points, however, we can convey no information to our readers by quoting insulated facts; the amount of the disease can only be judged of by reading the cases, which appear to be judiciously and candidly stated. Considering nothing but their number, it is certainly remarkable that not a single case proved fatal. All, without exception, were treated with an emetic of ipecacuanha, repeated till full vomiting was occasioned, followed up by an opiate, and subsequently a cathartic. The emetic, he observes, was said by the patients to have operated like a charm. "However violent the purging had been,—however incessant the nausea and retching, both ceased after the vomiting." Whatever may be thought of the author's theory in regard to the origin of this disease, the result of his practice certainly merits notice.

A somewhat bolder use of this plan of practice, pursued by a physician in the department of Saratov, in Russia, during the prevalence of epidemic cholera there, is mentioned by Lichtenstadt. On the first appearance of the disease, eight grains of antimony were exhibited in a glass of water. The vomiting and purging thus produced, it is observed, carried off the bile from the stomach and bowels, and on this operation followed decided improvement. This was the treatment in the more violent cases. In those less severe, four, or even two, grains were given; this was followed up with other remedies, calculated to obviate the various symptoms as they presented themselves; none of these, however, are particularly remarkable. This practice is stated to have been attended with favorable results.

The more general effects, on the system, of vomiting artificially excited, will be the subject of consideration in a future number.

Poisoning by Goose Grease.—On the second of April, 1829, Dr. Siedler was called to attend MM. H——, and their children. On his arrival, he found the two brothers H——, one aged thirty-one, the second twenty-eight years, and the two children of the first, one a girl, æt. four, and the other a boy, æt. two and a half, all presenting the following symptoms:—cold sweat, anxiety, vertigo, general paleness and prostration of strength, eyes sunken and pupils dilated; burning pain was felt in the lower part of the belly, increased by pressure; violent vomiting, succeeded by ardent thirst, for which the patients had drunk large quantities of milk, which was thrown up without producing any effect; tongue dry, involuntary discharge of urine and fæces.

The eldest brother was insensible for six minutes; his respiration was scarcely visible, his pulse imperceptible, and the heart's action exceedingly weak. The second brother had vomited blood several times, but he experienced less abdominal pain than the other. In the little boy, the globes of the eyes were turned upwards, the lips livid, and the pulse scarcely sensible. Lastly, the symptoms in the little girl were the mildest of all. M. Siedler suspected at once, that these accidents were occasioned by the use of a certain quantity of goose grease, which had been employed in the preparation of some meat, of which the four patients had eaten shortly before the symptoms began. An emulsion, containing hyoscyamus, was prescribed, and on the 9th of April all had recovered.

The vomited matters were subjected to chemical analysis: they were strongly acid, but contained no metallic poison; but the following facts induced Dr. Siedler to attribute the illness to the effect of sebacic acid. The lady of the house had made use of goose grease to dress some veal, and all the persons who partook of the dish fell quickly sick. The lady herself, who had barely tasted it, felt it so disagreeable that she took no more. None of the grease which was suspected to have caused the accident remained for examination, the pot which contained it having been entirely emptied and cleaned out; but, on examining the same kind of grease contained in three other pots, it was found to exhale a strong repulsive odor, and it reddened strongly blue paper tinged by turnsole. Three ounces of this grease were given to a vigorous, well-formed dog;

an hour after, his extremities became violently convulsed; he cried piteously, he refused to eat, his eyes were suffused, pupils dilated, skin cold, and arterial pulsations scarcely perceptible. In this state he continued for thirty hours, after which he slowly recovered.—*Hufeland's Journal.*

New Method of Destroying Rats.—M. Tenard lately read a note to the Academy of Sciences in Paris, in which he recommends the following as a simple and effectual method of destroying rats:—If there be several of their holes, begin by closing them up; those in their most frequent routs will soon be re-opened, and in this way their chief resorts will be discovered. Introduce into one of the apertures (again closing the others) the mouth of a glass retort, and make it air tight with common luting. Sulphuret of iron is then to be introduced into the apparatus, by the tubulure, and diluted sulphuric acid poured cautiously upon it. Sulphuretted hydrogen is evolved, which, entering by the hole, penetrates all the crevices into which the rats may retire, and speedily destroys them. —*Gazette Medicale.*

New Mode of Effecting Instantaneous Vesication.—Cut a piece of linen, cotton, or paper, of the desired size and shape; dip it in spirits of wine, eau de Cologne, or even in strong brandy; wring it or wipe the surface, that none of the fluid may trickle from it to the adjoining skin; lay it on the part intended to be blistered; apply a lighted candle or paper, carrying the flame rapidly over the whole surface, that it may all take fire at once. The ignition does not last a minute, and the cuticle will be found to be detached, and easily separable from the cutis.—*Bulletin de Therapeutique.*

Whole number of deaths in Boston for the week ending June 2, 34. Males, 14—Females, 20.

Of debility, 1—consumption, 7—convulsions, 2—gravel, 1—old age, 2—measles, 5—croup, 1—lung fever, 1—scarlet fever, 3—throat distemper, 3—drowned, 1—inflammation on the lungs, 1—unknown, 2—inflammation on the brain, 1—infantile, 1—inflammation in the bowels, 1—stillborn, 2—intemperance, 1.

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